

Grade Six Science Syllabus 2011 - 2012
Jennie Leake

Because our primary goal is to maximize student achievement, material may be added, deleted, and/or substituted at the teacher's discretion based upon the individual needs, levels, and learning styles of each class. Creative projects, written assignments and supplemental materials may be included also throughout the year as opportunities arise. Likewise there will be on going assessments in technology and inquiry and standardized test preparations.

According to the South Carolina science standards sixth graders continue to develop the investigative skills they have been acquiring since kindergarten, now expanding them to include the skill of differentiating between observation and inference. Specifically, students explore the life, earth, and physical sciences within the framework of the following topics: Structures, Processes, and Responses of Plants; Structures, Processes, and Responses of Animals; Earth's Atmosphere and Weather; and Conservation of Energy. The science standards for the sixth grade provide the foundation for a course that is based on a rich and wide variety of learning experiences that actively engage students and accommodate a broad range of student learning styles through varied materials and instructional strategies. Sixth grade science classes use Glencoe's S.C. Science textbook.

INSTRUCTIONAL UNITS

First Semester

Standard 6-1 Scientific Inquiry – Chapter 1 and throughout the book

- 6-1.1 Use appropriate tools and instruments (including a spring scale, beam balance, barometer, and sling psychrometer) safely and accurately when conducting a controlled scientific investigation.
- 6-1.2 Differentiate between observation and inference during the analysis and interpretation of data.
- 6-1.3 Classify organisms, objects, and materials according to their physical characteristics by using a dichotomous key.
- 6-1.4 Use a technological design process to plan and produce a solution to a problem or a product.
- 6-1.5 Use appropriate safety procedures when conducting investigations.

Standard 6-2 Structure, Processes and Responses of Plants – Chapters 3, 4 & 5

- 6-2.1 Summarize the characteristics that all organisms share.
- 6-2.2 Recognize the hierarchical structure of the classification (taxonomy) of organisms.
- 6-2.3 Compare the characteristic structures of various groups of plants.
- 6-2.4 Summarize the basic functions of the structures of a flowering plant for defense, survival, and reproduction.
- 6-2.5 Summarize each process in the life cycle of flowering plants.
- 6-2.6 Differentiate between the processes of sexual and asexual reproduction of flowering plants.
- 6-2.7 Summarize the processes required for plant survival.
- 6-2.8 Explain how plants respond to external stimuli.
- 6-2.9 Explain how disease-causing fungi can affect plants.

Standard 6-3 Structure, Processes and Responses of Animals - Chapters 6, 7, 8, 9 & 10

- 6-3.1 Compare the characteristic structures of invertebrate animals.
- 6-3.2 Summarize the basic functions of the structures of animals that allow them to defend themselves, to move, and to obtain resources.
- 6-3.3 Compare the response that a warm-blooded (endothermic) animal makes to a fluctuation in environmental temperature with the response that a cold-blooded (ectothermic) animal makes to such a fluctuation.
- 6-3.4 Explain how environmental stimuli cause physical responses in animals.
- 6-3.5 Illustrate animal behavioral responses to environmental stimuli.
- 6-3.6 Summarize how the internal stimuli of animals ensure their survival.
- 6-3.7 Compare learned to inherited behaviors in animals.

Second Semester

Standard 6-4 Earth's Atmosphere and Weather - Chapters 11, 12 & 13

- 6-4.1 Compare the composition and structure of Earth's atmospheric layers.

- 6-4.2 Summarize the interrelationships among the dynamic processes of the water cycle.
- 6-4.3 Classify shapes and types of clouds according to elevation and their associated weather conditions and patterns.
- 6-4.4 Summarize the relationship of the movement of air masses, high and low pressure systems, and frontal boundaries to storms and other weather conditions.
- 6-4.5 Use appropriate instruments and tools to collect weather data.
- 6-4.6 Predict weather conditions and patterns based on weather data collected from direct observations and measurements, weather maps, satellites, and radar.
- 6-4.7 Explain how solar energy affects Earth's atmosphere and surface.
- 6-4.8 Explain how convection affects weather patterns and climate.
- 6-4.9 Explain the influence of global winds and the jet stream on weather and climatic conditions.

Standard 6-5 Conservation of Energy - Chapters 14, 15, 16, 17 & 18

- 6-5.1 Identify the sources and properties of heat, solar, chemical, mechanical, and electrical energy.
- 6-5.2 Explain how energy can be transformed from one form to another in accordance with the law of conservation of energy.
- 6-5.3 Explain how magnetism and electricity are interrelated by using descriptions, models, and diagrams of electromagnets, generators, and simple electrical motors.
- 6-5.4 Illustrate energy transformations.
- 6-5.5 Illustrate the directional transfer of heat energy through convection, radiation, and conduction.
- 6-5.6 Recognize that energy is the ability to do work.
- 6-5.7 Explain how the design of simple machines helps reduce the amount of force required to do work.
- 6-5.8 Illustrate ways that simple machines exist in common tools and in complex machines.

Materials and Resources

anemometers
 baking soda
 balances
 ball and ring apparatus
 balloons
 barometer
 batteries
 beakers
 cloud models
 content related videos
 electrical components
 electrical motors
 field guides
 flashlights
 food coloring
 glue and tape
 graduated cylinders
 graph paper
 hand lens
 hot plates
 hurricane charts and tracking maps
 inclined planes
 index cards
 light boxes
 lights with reflectors
 magnets
 marbles
 metal tongs

meter sticks
plant models
plants
plastic bags
posters
Power Point presentations
preserved specimens
psychrometers
pulleys
radiation cans
remarkable board and markers
rubber bands
rulers
sand
scissors
seeds
string
textbook: South Carolina Science by Glencoe
thermometers
timer

Daily Materials wide- ruled, loose-leaf paper, pencils, blue or black ink pen and agenda

Grading

District Policy is that minor assessments count 50% with a minimum of 12 per quarter and major assessments count 50% with a minimum of 3 per quarter. [Homework is 20% and all other minor assessments are 30%.] Daily assignments are accepted the next school day for 70% credit. Late projects or large assignments lose 10 points per day and will not be accepted after 3 days.

Classroom Rules

- **Be Prompt**
Be in your seat working when the tardy bell rings
- **Be Prepared**
Sharpen pencils before class
Come with necessary supplies
Come ready to learn
- **Be Polite**
Show respect to all
Remember “personal space”
Follow the school rules

Consequences

1st offense: Verbal warning
2nd offense: Student conference, point
3rd offense: Parent contact, point
4th offense: point referral after 5 points

** Severe disruption: student removed from class//referral written

Parent Communication

Email - Jleake@greenville.k12.sc.us

Phone - 355-7948

Website - <http://teachers.greenville.k12.sc.us/sites/jleake/default.aspx>

